West Virginia - 2008

Forest Health Highlights

The Resource

The West Virginia landscape is dominated by more than 11.8 million acres of forest. Due in large part to its varied topography, the forest is a rich diversity of oaks, hickories, spruce, pines, and the West Virginia State Tree—sugar maple. Although ninety percent of all forests in West Virginia are privately owned, the State also has 9 State forests, 36 State parks, and 56 wildlife management areas that provide public enjoyment.

Forest Stewardship

The Forest Stewardship Program is administered by the West Virginia Division of Forestry. The program helps private, nonindustrial forest landowners improve their forests by managing them in a sound, scientific manner. In West Virginia, the Forest Stewardship Program includes a forest management plan written by a professional forester as well as financial assistance for recreation, forest improvement, soil and water protection, wetlands protection, fisheries habitat enhancement, wildlife habitat enhancement, tree planting, and improvement of forest roads. From 1990 through June 30, 2008, 4,533 stewardship plans have been written in West Virginia covering 739,189 acres of private forest lands.

Special Issues

Gypsy Moth — West Virginia Department of Agriculture (WVDA) field agents surveyed more than 363,792 acres of State and private land during fall 2008 to determine areas at risk for potential gypsy moth defoliation in spring 2009.

The WVDA completed treatments on 64,495 acres in the Gypsy Moth Cooperative State County Landowner Suppression Program. No treatments were conducted in the Slow the Spread area. WVDA Cooperative Forest Health Protection specialists flew and sketchmapped 81,308 acres of gypsy moth defoliation in 10 counties in West Virginia. This was up from last year's total of 77,910 acres.

***Phytophthora ramorum* Provisional Laboratory Approval Program** — Personnel from the WVDA, Plant Industries Division, PCR Laboratory participated again in the United States Department of Agriculture-Animal and Plant Health Inspection Service-Plant Protection Quarantine (USDA-APHIS-PPQ) *Phytophthora ramorum* Laboratory Provisional Approval Program. Lab personnel were administered the proficiency panel in April and were notified in June that they had passed the test panel. The lab and its personnel are provisionally approved for 2008 to perform validated diagnostic tests for *Phytophthora ramorum* on behalf of the (USDA-APHIS-PPQ) programs.

Phytophthora ramorum **Early Detection Survey for Forests: Stream Baiting** — This is the third year of stream baiting for early detection of *Phytophthora ramorum* and detection of other *Phytophthora* species in a stream environment using bait leaves. The U.S. Forest Service launched a pilot survey in 2006.

Four streams were chosen in which two of the four streams were in the same watershed as a Trace Forward Nursery and the other two streams were in a watershed that contained a nursery that was considered an unofficial Trace Forward Nursery. This provided locations where baiting could be conducted downstream of these nurseries.

Six baiting periods were proposed in the spring and fall when water temperatures were below 22 °C. Due to an overabundance of rain in the spring, only two baiting periods were completed; in the first baiting period, one stream flooded to the point baits were lost. In the fall, extreme lack of rain prevented any baiting to occur.

Culturing (WVDA) and Real-Time PCR (Mississippi State University) were used for detection of *P. ramorum*. Culturing (WVDA) was used for detection of general *Phytophthora* species and ELISA was used to corroborate culturing results. P. ramorum was not detected in any of the bait leaves sampled or cultured. *Phytophthora* species were recovered 100 percent of the time for the two baiting periods that were completed.

Hickory Decline — Significant hickory decline has been noted throughout Iowa, Minnesota, New York, Ohio, Wisconsin, Pennsylvania, and West Virginia according to U.S. Forest Service Forest Health Monitoring data. Field evaluations were conducted throughout West Virginia to determine the extent of hickory decline and if there was any association with tree pathogens such as *Ceratocystis* spp. and/or insect pest presence such as borers and engravers. This survey did not reveal a significant amount of hickory decline. Only two locations were found with heavy decline: Greenbrier County and Clay County. Hampshire, Randolph, Kanawha, and Summers Counties each had a location with light decline. The other 25 hickory stands that were surveyed did not contain any decline.

Healthy/"Resistant" Beech — The WVDA, under an initiative of the U.S. Forest Service, is currently surveying for disease-free beech in areas of heavy beech scale and mortality due to the beech bark disease (BBD) complex. Once candidate trees have been deemed scale free and healthy, plant material will be sent to the U.S. Forest Service, which has been working on developing resistant varieties of American beech in hopes of determining how this resistance to beech scale may be inherited.

A handful of areas were chosen in the killing front. Data collected included diameter at breast height (d.b.h.), scale presence/absence, tree condition (healthy/unhealthy), beech component of the area (percentage of beech stems), condition of beech in the area (scales only, scale and *Neonectria* cankers, BBD-induced decline), and distance to the nearest heavily BBD-infested beech.

The trees that seem to display resistance have characteristics such as smooth, gray bark; full crowns with no decline or very minimal decline; no yellowing of the leaves; and a d.b.h. that is 10 cm or greater. Next year these same beech trees will be evaluated to determine if they have remained scale free and can be considered candidate resistant trees.

Bacterial Leaf Scorch (BLS) — BLS is not new in West Virginia, but for the first time has been found outside of Jefferson County where it was first detected in 1992 on red oak. At this time, BLS has been found in five new counties: Berkeley, Morgan, Wood, Cabell, and Kanawha, and on five new hosts: black oak, pin oak, elm, sweetgum, and red maple. It was also found on red oak, a prior host in WV.

Emerald Ash Borer (EAB) — WVDA personnel conducted EAB visual surveys on sites in all 55 counties, which totaled well over 800 sites surveyed. EAB pest alerts and "Don't Move Firewood" posters were distributed in each of these sites.

Hemlock Woolly Adelgid (HWA) — With new detections in Wood, Mingo, and Cabell Counties, HWA can now be found in 35 West Virginia counties. In 2008, *Sasajiscymnus tsugae* predatory beetles (15,000 adults) were released in Hawk's Nest State Park (5,000 adults), Blackwater Falls State Park (5,000 adults), and Cathedral State Park (5,000 adults). *Laricobius nigrinus* beetles (1,800 adults) were released in Camp Creek State Park (400 adults), Little Beaver State Park (600 adults), Greenbrier State Forest (300 adults), and Beartown State Park (500 adults). Selected previous release sites of *L. nigrinus* and *S. sinuanodulus* were monitored for predator survival and impact on HWA.

The WVDA continued to treat high-value and high-visibility infested hemlocks with imidacloprid via soil injection and with Coretect tablets inserted into the soil. A total of 742 (13,624" d.b.h.) trees were treated at 11 sites.

Siricid Woodwasp (SWW) — In 2008, the WVDA conducted a SWW survey using paired Lindgren funnel traps in 19 declining pine stands. Thirty woodwasps representing four native species were collected. *Sirex noctilio* was not collected.

Forest Fire

Fire occurrence during FY 2008 increased approximately 23 percent from the previous fiscal year, but was still within an "average" range. Dry overall conditions continued to persist for the second consecutive year, but periodically favorable rain patterns helped keep fire occurrence lower than was initially feared. In FY 2008, there were 924 wildland fires statewide that burned 11,613 acres. The "acres burned" figure was up 19.7 percent from FY 2007. Fire damage to the State's forests for FY 2008 was estimated to be about $3,716,160. The three leading causes of West Virginia wildfires during FY 2008 were escaped debris burning (36 percent), incendiary (arson) (26 percent), and equipment use (18 percent). With 2 consecutive years of below average rainfall, water tables and soil moisture levels are still a concern for the Division of Forestry for the coming spring 2009 fire season.

For More Information

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